

WELCOME

Highway 101 Greenbrae Corridor Improvement Project

Information Open House & Public Meeting

October 20, 2005, 6:00 PM – 9:00 PM



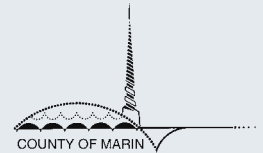
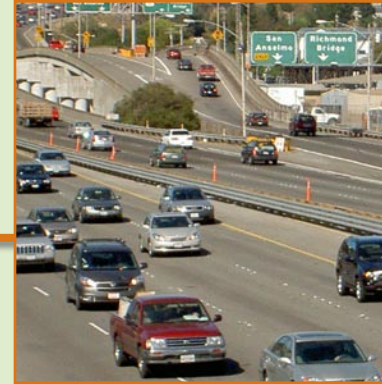
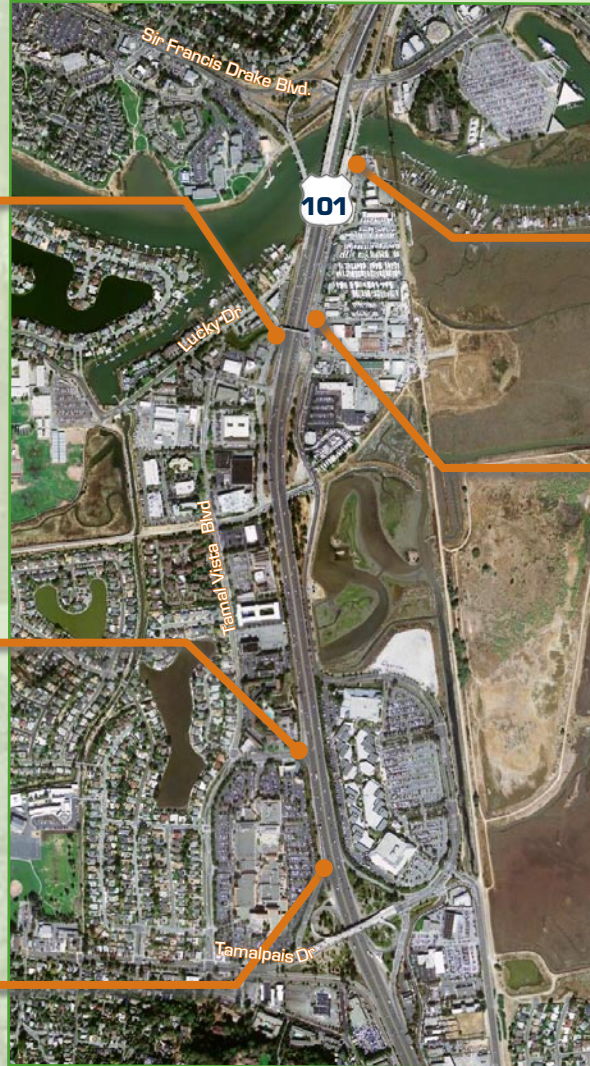
Project Purpose & Description

- ▶ To address inadequate design of the existing roadway, **improvements to the Greenbrae Corridor from the Tamalpais Drive overcrossing to the Greenbrae interchange at Sir Francis Drake Boulevard are clearly needed.** The existing roadway design and spacing between interchanges does not meet current California Department of Transportation (Caltrans) freeway design standards. The result is daily recurring traffic congestion along the corridor, adverse impacts to local circulation and an accident history higher than average for a similar roadway. The congestion in this corridor is listed as the 8th worst in the Bay Area. Anticipated future traffic growth will further exacerbate current deficiencies.
- ▶ The proposed project will:
 - ▷ Improve access to and from Highway 101
 - ▷ Contribute to better operation and traffic flow
 - ▷ Use a multi-modal approach to address transportation improvements
 - ▷ Reduce weaving and merging conflicts on the highway
 - ▷ Address circulation issues on local roads
- ▶ The Transportation Authority of Marin (TAM), in cooperation with Caltrans, Federal Highway Administration (FHWA), County of Marin, Town of Corte Madera and the City of Larkspur, is hosting this meeting to inform, educate and gather public input on the project.

Project Funding

- ▶ On March 2, 2004 voters passed **Regional Measure 2 (RM2)**, an increase in the toll on the seven State-owned toll bridges in the San Francisco Bay Area. RM2 funds various transportation projects within the region that have been determined to reduce congestion or to make improvements to travel in the toll bridge corridors. **The U.S. 101 Greenbrae Corridor Improvement Project is one of four projects in Marin County funded by RM2.**
 - ▷ U.S. 101 Greenbrae Corridor Improvement Project
 - ▷ Sir Francis Drake Boulevard Widening
 - ▷ Cal Park Hill Tunnel Rehabilitation and Bikeway (bicycle/pedestrian)
 - ▷ Central Marin Ferry Access Improvements (bicycle/pedestrian)
- ▶ Cost estimates for the construction of improvements will be developed during the preliminary engineering and environmental review of the proposed project.

Project Area



Key Issues Raised to Date

- ▶ Traffic congestion
- ▶ Access to and from highway
- ▶ Local circulation
- ▶ Pedestrian and bicycle circulation
- ▶ Transit service accessibility
- ▶ Safety



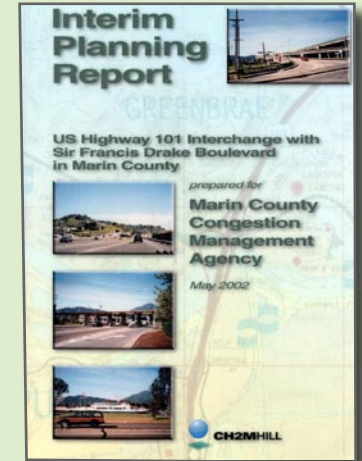
Environmental review may include the following:

- | | | |
|---------------------------------|-----------------------------|--------------------------------------|
| ▷ Aesthetics | ▷ Hydrology & Water Quality | ▷ Recreation |
| ▷ Air Quality | | ▷ Transportation/Traffic |
| ▷ Biological Resources | ▷ Land Use and Planning | ▷ Utilities, Energy & Service System |
| ▷ Cultural Resources | ▷ Noise | ▷ Cumulative Impacts |
| ▷ Geology and Soils | ▷ Population & Housing | |
| ▷ Hazards & Hazardous Materials | ▷ Public Services | |

Preliminary Improvement Options

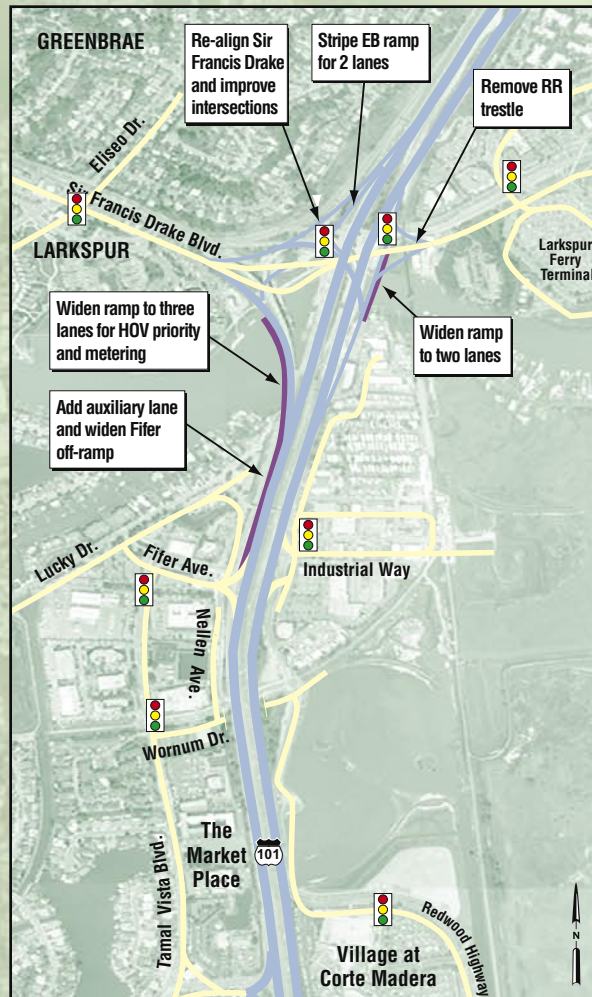
► Preliminary options were identified in an Interim Planning Report in May 2002

- ▷ Option 1. Rebuild Sir Francis Drake Boulevard Interchange
- ▷ Option 2. Limited Improvements to Existing Interchanges
- ▷ Option 3. Restructure U.S. 101 Interchange Access
- ▷ Option 4. Construct Wornum Drive Full Service Interchange
- ▷ Option 5. Construct Wornum Drive Half Diamond Interchange
- ▷ Option 6. Construct Wornum Drive Across Corte Madera Creek
- ▷ Option 7. Add New Ramp (Westbound I-580 to Southbound U.S. 101) plus Wornum Drive Extension and Creek Crossing



- Each option is conceptual and subject to further revision during the study process
- In March 2003, after an initial review of the options and input from the public, the Larkspur City Council and Corte Madera Town Council indicated their preference for Option 4 with certain modifications:
 - ▷ Include study of the Tamalpais Drive/ 101 interchange
 - ▷ Include study of the Madera on/off ramps
 - ▷ Address concerns about impacts to local road traffic circulation and bicycle/pedestrian access
- TAM, in cooperation with Caltrans, FHWA, County of Marin, Larkspur and Corte Madera, will conduct a comprehensive environmental review

Preliminary Option #1: Rebuild Sir Francis Drake Boulevard Interchange



Purpose:

- Update Sir Francis Drake Interchange to meet current design standards, improve level of service, and include traffic management system elements

Description:

- Improve interchange to Caltrans design standards
- Widen SB on-ramp to three lanes and NB off-ramp to two lanes eastbound
- Incorporate HOV priority access, ramp metering and vehicle storage space
- Re-align Sir Francis Drake and improve intersections and signal control
- Address sensitive environmental setting and required bridge structure changes

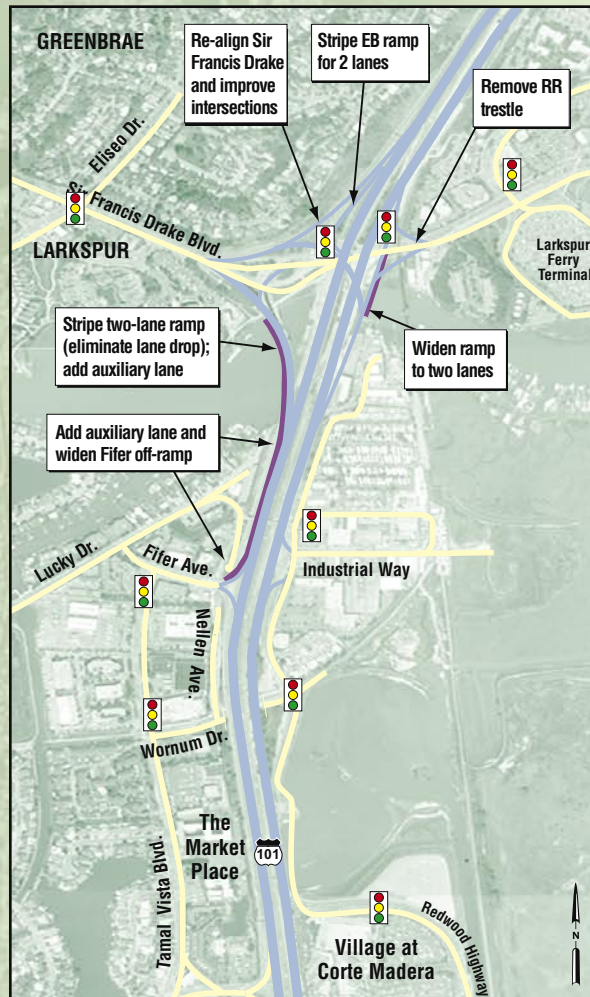
Benefits:

- Improved traffic operations and safety at the Sir Francis Drake interchange

Constraints:

- Existing interchange is on structure and over water - improvements will be very costly and environmentally sensitive
- Improvements at Sir Francis Drake will not address freeway traffic problems due to interference of nearby interchanges
- Traffic safety risk remains with mix of low-speed traffic entry from nearby interchanges and high-speed freeway traffic

Preliminary Option #2: Limited Improvements to Existing Interchanges



Purpose:

- Implement limited physical and operational improvements on U.S. 101 and Sir Francis Drake to enhance traffic operations and safety while retaining most existing access

Description:

- Restripe Greenbrae interchange SB on-ramp to two lanes and widen NB off-ramp to two lanes eastbound
- Add auxiliary lane southbound between Sir Francis Drake (two lane on-ramp) and Fifer
- Widen Fifer southbound off-ramp and cul-de-sac Nellen
- Add auxiliary lane northbound between Lucky and Sir Francis Drake
- Re-align Sir Francis Drake and improve intersections and signal control

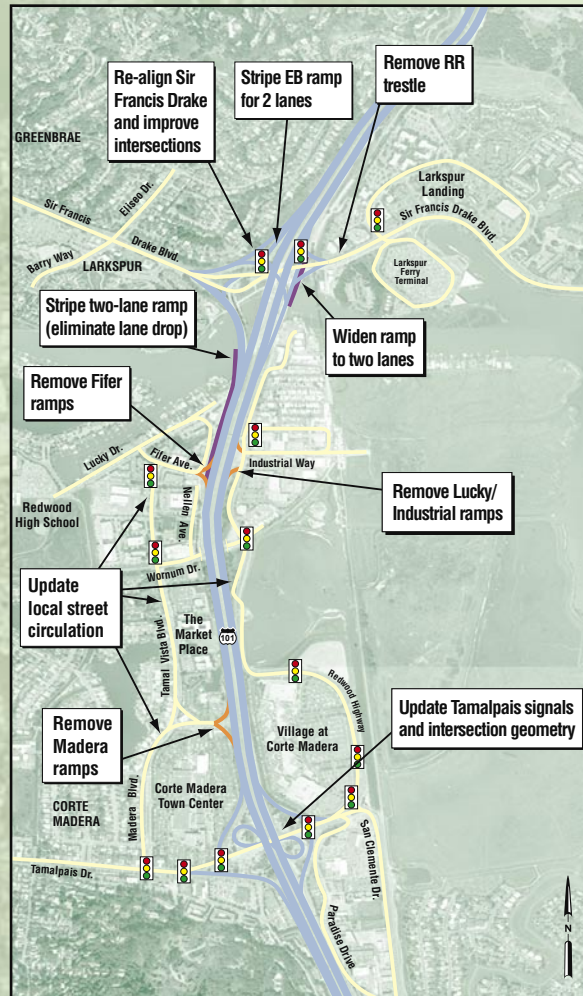
Benefits:

- Somewhat improved safety and freeway operations south of the Sir Francis Drake interchange
- Retains most access while addressing the most critical issues
- Relatively high traffic operations and safety payoff for limited capital investment

Constraints:

- Improvements are a “stopgap” measure - not long-term solutions
- Traffic safety risk remains with mix of low-speed traffic entry from nearby interchanges and high-speed freeway traffic
- Widening Sir Francis Drake NB off-ramp involves wetlands and sensitive water environment
- Does not resolve critical interchange spacing deficiency - too many access points between Tamalpais and Sir Francis Drake

Preliminary Option #3: Restructure U.S. 101 Interchange Access



Purpose:

- Upgrade route to Caltrans interchange spacing and design criteria to improve freeway operations and safety

Description:

- Restripe Greenbrae interchange SB on-ramp to two lanes and widen NB off-ramp to two lanes eastbound
- Remove ramps at Lucky/Industrial, Fifer, and Madera
- Extend auxiliary lane southbound from Sir Francis Drake through Fifer
- Re-align Sir Francis Drake and improve intersections and signal control
- Upgrade Tamalpais interchange, ramp and nearby signal intersections to accommodate shifted traffic demand
- Improve local traffic circulation on Madera, Tamal Vista, Wornum, Redwood Highway and Lucky Drive

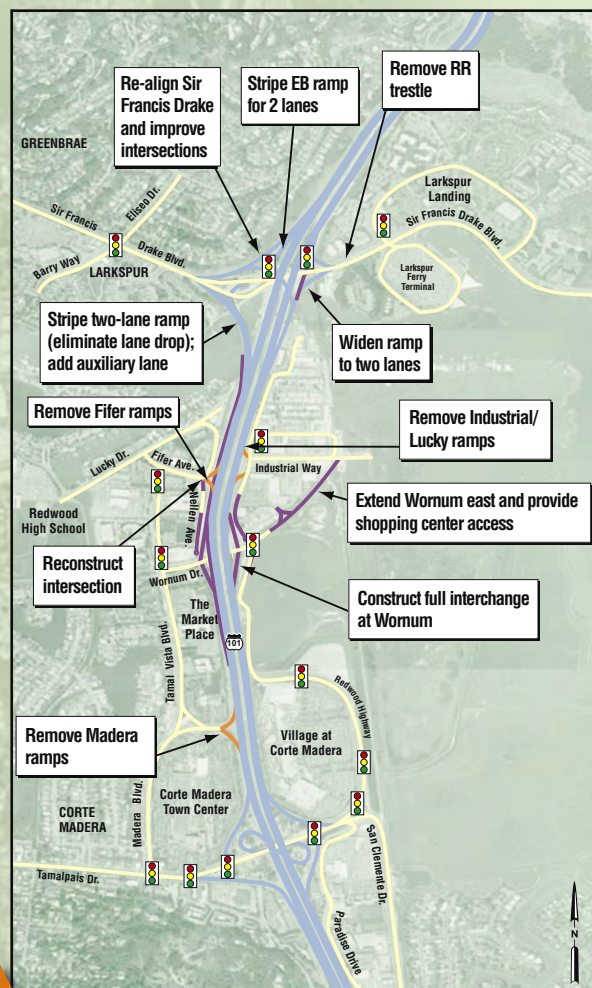
Benefits:

- Improved interchange spacing and geometry will greatly improve traffic operations and safety
- Low cost to close interchanges

Constraints:

- Closed ramps will increase traffic on local streets
- Access to areas around Fifer/Lucky and Industrial Road will be degraded
- Some local trips across Corte Madera Creek will shift to Bon Air Road

Preliminary Option #4: Construct Wornum Drive Full Service Interchange



Endorsed as the preferred option
with modifications by Larkspur
and Corte Madera

Purpose:

- Improve freeway operations and community access with new interchange

Description:

- Construct new full-service diamond interchange at Wornum Drive
- Remove ramps at Lucky Drive (northbound) and Fifer/Madera (southbound)
- Restripe Greenbrae interchange SB on-ramp to two lanes and widen NB off-ramp to two lanes eastbound
- Extend auxiliary lane southbound from Sir Francis Drake through Fifer
- Re-align Sir Francis Drake and improve intersections and signal control
- Extend Wornum east along railroad alignment to Industrial Rd and create commercial property access east of Redwood
- Cul-de-sac Nellen and Redwood north of Wornum. Shift Redwood east at Wornum

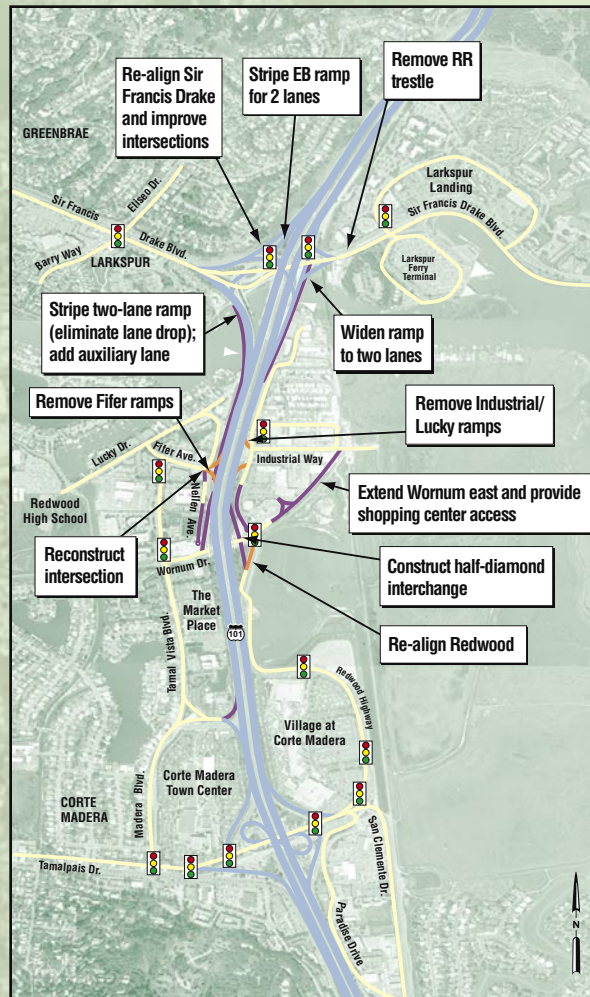
Benefits:

- Improve freeway operations with better interchange spacing and improved design
- Safety is enhanced with interchange spacing and design standards upgrade
- Sir Francis Drake interchange improvement and auxiliary lanes improve traffic capacity and performance
- Better traffic operations on Sir Francis Drake because Lucky traffic does not pass through Sir Francis Drake ramp signal

Constraints:

- Very minor shift in local street traffic patterns through Wornum
- Cul-de-sacs would alter some traffic to accommodate new interchange
- Local traffic would still use the freeway for short trips across Corte Madera Creek

Preliminary Option #5: Construct Wornum Drive Half Diamond Interchange



Purpose:

- Construct a partial new interchange at Wornum to improve interchange spacing, traffic operations, and safety

Description:

- Construct a new half-diamond interchange at Wornum with on and off ramps to and from the north only
- Restripe Greenbrae interchange SB on-ramp to two lanes and widen NB off-ramp to two lanes eastbound
- Remove ramps at Lucky (northbound) and Fifer/Madera (southbound)
- Add auxiliary lane southbound from Greenbrae southbound on-ramp to Wornum
- Extend Wornum east along railroad alignment to Industrial and create commercial property access east of Wornum
- Cul-de-sac Nellen and Redwood north of Wornum. Shift Redwood east at Wornum
- Re-align Sir Francis Drake and improve intersections and signal control

Benefits:

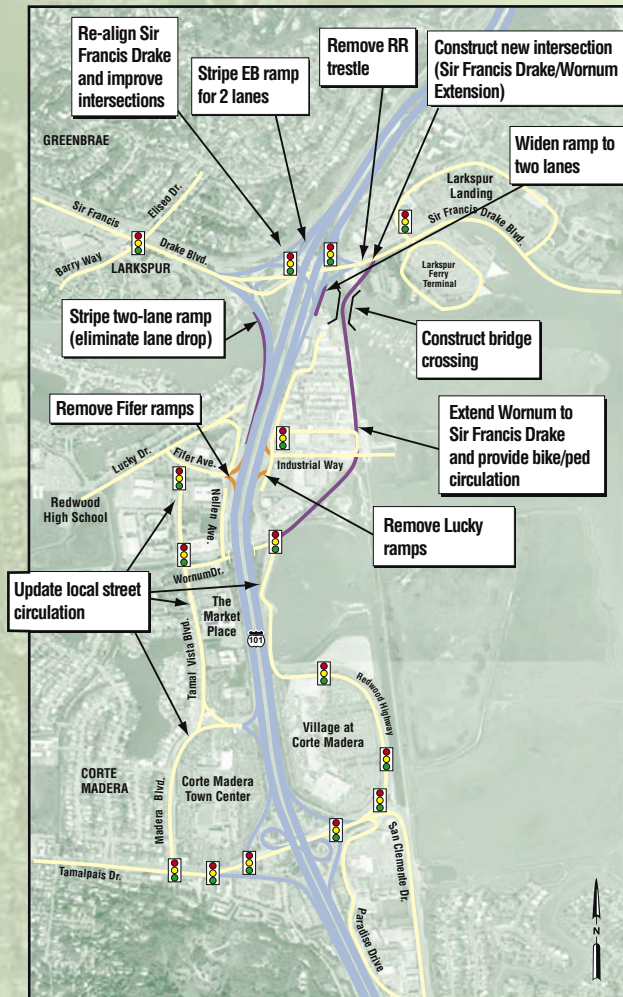
- Freeway operations improve with better interchange spacing and updated design

- Safety is enhanced with interchange spacing and design standards upgrade
- Sir Francis Drake interchange improvement and auxiliary lanes improve traffic capacity and performance
- Better traffic operations on Sir Francis Drake because Lucky traffic does not have to pass through Sir Francis Drake ramp signal
- Madera ramps retain access to Corte Madera Town Center and adjoining commercial development

Constraints:

- High cost for major improvements
- Construction of Wornum extension and Creek bridging involves highly sensitive water, wetlands, and environmental areas; will require mitigation
- New intersection on Sir Francis Drake requires signal control integration
- Traffic may not shift to the I-580/U.S. 101 route due to distance and freeway congestion
- Fewer access points on U.S. 101 will increase traffic using the Tamalpais interchange

Preliminary Option #6: Construct Wornum Drive Across Corte Madera Creek



Purpose:

- Separate longer freeway trips and local trips to improve traffic operations, safety and local access

Description:

- Extend Wornum from U.S. 101 east and bridge Corte Madera Creek to Sir Francis Drake
- Restripe Greenbrae interchange SB on-ramp to two lanes and widen NB off-ramp to two lanes eastbound
- Remove ramps at Lucky (northbound) and Fifer (southbound)
- Add auxiliary lane southbound from Greenbrae southbound on-ramp to Wornum
- Re-align Sir Francis Drake and improve intersections and signal control
- Create new intersection (Wornum/Sir Francis Drake for access to Larkspur Landing, the Ferry Terminal, and the Richmond-San Rafael Bridge
- Include bicycle and pedestrian circulation in Corte Madera Creek crossing

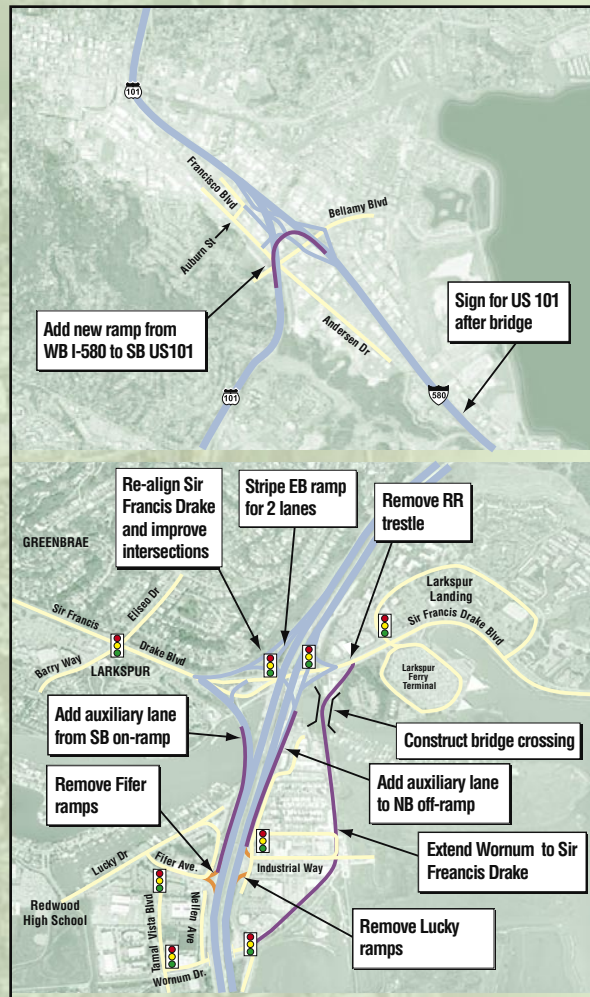
Benefits:

- Separation of local, short-trip traffic and freeway high speed, longer trip traffic enhances safety, improves freeway and ramp traffic operation and assists local circulation
- Sir Francis Drake interchange improvement and auxiliary lanes improve traffic capacity and performance
- Better traffic operations on Sir Francis Drake because traffic from Lucky is not routed through the Sir Francis Drake ramp signal
- Bicycle and pedestrian circulation enabled across Corte Madera Creek.
- Residents and visitors gain alternative access across Corte Madera Creek

Constraints:

- Wornum extension construction and Creek bridging involve highly sensitive water, wetlands, and environmental areas; will require mitigation
- New intersection on Sir Francis Drake requires signal control integration
- Fewer access points on U.S. 101 will increase traffic using the Tamalpais interchange and local streets

Preliminary Option #7: Add New Ramp (Westbound I-580 to Southbound U.S. 101) Plus Wornum Drive Extension and Creek Crossing



Purpose:

- Shift traffic away from Greenbrae Interchange with U.S. 101/I-580 system connection and Wornum Extension for local traffic

Description:

- Add direct freeway-to-freeway ramp from westbound I-580 to southbound U.S. 101
- Extend Wornum east from U.S. 101 and bridge Corte Madera Creek to Sir Francis Drake
- Restripe Greenbrae interchange SB on-ramp to two lanes and widen NB off-ramp to two lanes eastbound
- Remove ramps at Lucky (northbound) and Fifer (southbound)
- Add auxiliary lane from Greenbrae southbound on-ramp to Wornum
- Re-align Sir Francis Drake and improve intersections and signal control

Benefits:

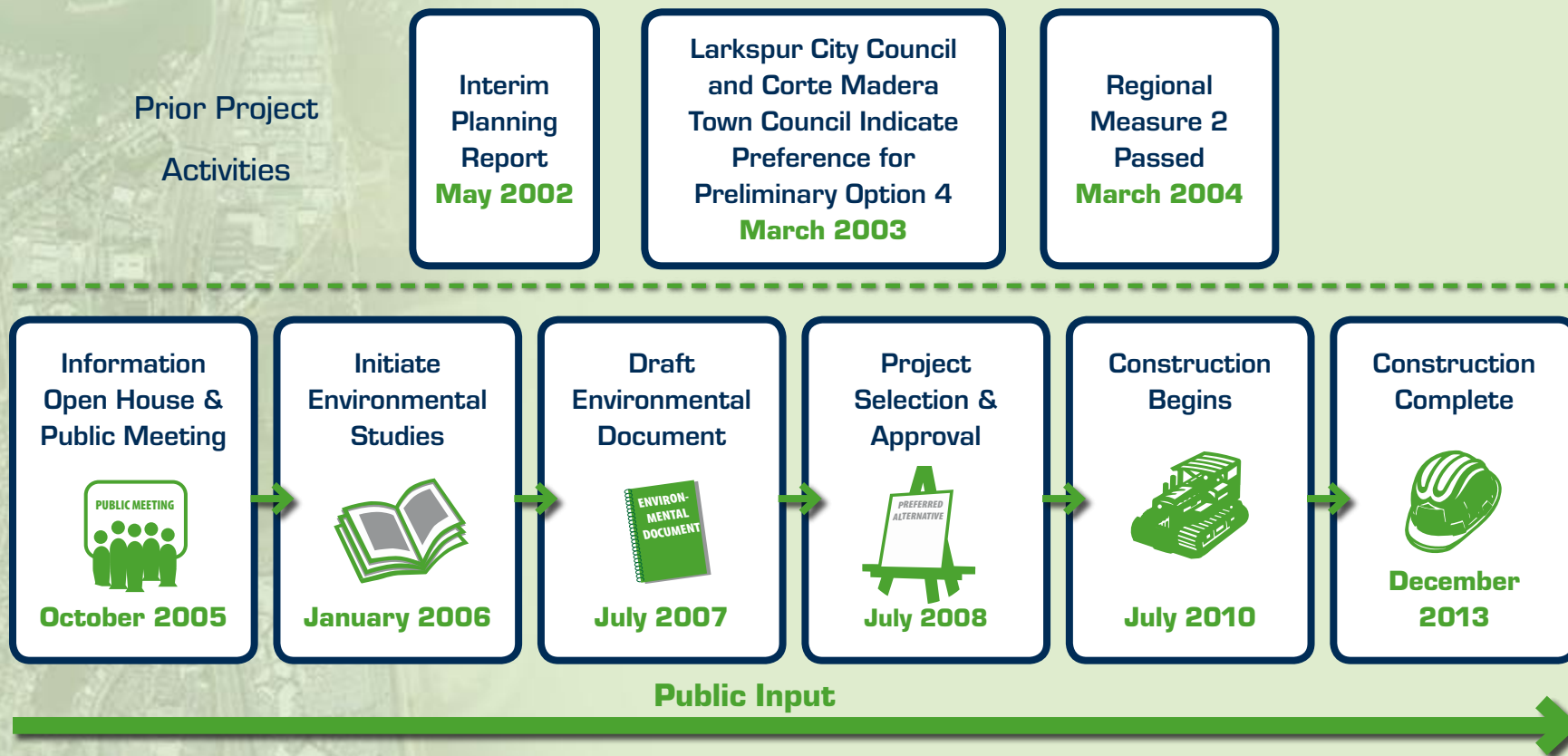
- Reduced traffic on Sir Francis Drake by shifting traffic to I-580 and U.S. 101
- Improved safety and local circulation by separating local, short trips from freeway higher-speed traffic

- Improved freeway operation and safety due to fewer access points
- Bicycle and pedestrian circulation enabled across Corte Madera Creek
- Residents and visitors gain alternative access across Corte Madera Creek

Constraints:

- High cost for major improvements
- Construction of Wornum extension and Creek bridging involves highly sensitive water, wetlands, and environmental areas; will require mitigation
- New intersection on Sir Francis Drake requires signal control integration
- Traffic may not shift to the I-580/U.S. 101 route due to distance and freeway congestion
- Fewer access points on U.S. 101 will increase traffic using the Tamalpais interchange

Project Process



* Project schedule subject to change

How You Can Stay Involved...

- ▶ Read **Project Information Materials**
- ▶ Attend **Public Meetings** on the Project
- ▶ Contact **Transportation Authority of Marin (TAM)**
 - ▷ Website - www.tam.ca.gov
 - ▷ TAM Project Manager, Bill Whitney
Phone **(415) 507-2810**
Email **BWhitney@co.marin.ca.us**
- ▶ **Sign up for our mailing list!** When you sign-in today, please provide your complete mailing address including an email address
- ▶ As the project moves forward, information will be made available at local libraries and city/county offices. Locations and contact information will be listed on our website or contact Bill Whitney at the number above.